

ABSTRACT

A non-rotating electrodeless high-intensity discharge lamp system using circularly polarized microwaves. The lamp system has a first rectangular waveguide to propagate linearly polarized microwaves generated from a microwave source; an input circular waveguide linearly connected to the first rectangular waveguide; a second rectangular waveguide closed at an end thereof, and perpendicularly connected to a circumferential surface of the input circular waveguide; an elliptical waveguide linearly connected to the input circular waveguide such that the major axis of the elliptical waveguide is rotated to a predetermined angle relative to a horizontal surface of the input rectangular waveguide; a second circular waveguide linearly connected to the elliptical waveguide; and a discharge lamp housed in a mesh cover, and supported by the second circular waveguide while being held on a reflecting mirror.